



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL FROM THE PRIMARY EXAMINER TO THE
BOARD OF PATENT APPEALS AND INTERFERENCES

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Brief
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Inventor: KOCH, Earl D.

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Serial No.: 09/553,452

Art Group Unit: 3671

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Examiner: FLORIO, Kristine Marie

Title: Temporary Ramp

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF (37 C.F.R. § 1.192)

Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on September 3, 2003.

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I. REAL PARTY IN INTEREST (37 C.F.R. § 1.192(c)(1)).

The real party in interest in this appeal is the party named in the caption of this brief.

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 1.192(c)(2)).

There are no known interferences or other appeals that either will directly affect this appeal, be directly affected by this appeal, or that have a bearing on the decision in the present appeal.

III. STATUS OF CLAIMS (37 C.F.R. § 1.192(c)(3)).

A. Total Number of Claims in the Application.

The claims in the application (pending or cancelled) are: 1 - 48

B. Status of all the Claims:

Claims cancelled: 1 - 24, 34, 38, 40, 41.

Claims pending but withdrawn from consideration: 28, 31, 33, 37, 42-48

Claims pending: 25, 26, 27, 29, 30, 32, 35, 36, 39

Claims allowed: None

Claims rejected: 25, 26, 27, 29, 30, 32, 35, 36, 39

C. Claims on Appeal:

The claims on appeal are: Claims 25, 26, 27, 29, 30, 32, 35, 36, 39

IV. STATUS OF AMENDMENTS (37 C.F.R. § 1.192(c)(4)).

No amendment to the claims has been filed subsequent to the final rejection.

V. SUMMARY OF INVENTION (37 C.F.R. § 1.192(c)(5)).

The present invention relates to temporary ramps for use on roadways under construction. As described in the pending application (pp. 1-2), many roads have manhole risers, storm sewer inlets, electric and gas utility access risers or various other structures located in the roadway surface. The top elevations of these structures are generally at the same elevation as the finished roadway surface such that the roadway surface is relatively smooth to vehicle traffic. Application, pp. 1-2. When constructing such roads, until the finished roadway surface is placed or poured, these structures will project up above the unfinished roadbed surface, as will any finished roadway surfaces intersecting with or running adjacent to the roadway under construction. *Id.*

It is not uncommon for roadways under construction to remain open to traffic during construction or resurfacing. *Id.* Thus, it should be appreciated that unless there is a ramp around or adjacent to the structures projecting above the unfinished roadway surface, the vehicles as well as the upwardly projecting structure (hereinafter "elevated obstruction") may be damaged as the vehicles travel over the unfinished roadway, particularly if the vehicles are traveling at a high rate of speed. *Id.*

The use of temporary asphalt ramps, around or adjacent to elevated obstructions is known in the art. *Id.* However, the use of temporary asphalt ramps generally involves a variety of machinery and many workers to initially place the asphalt ramps and then to remove the asphalt ramps prior to placing the finished roadway surface. *Id.* Therefore temporary asphalt ramps are relatively labor intensive and costly. *Id.*

In addition to asphalt temporary ramps, it is also known to provide prefabricated donut-shaped, single-piece temporary ramps for placing around manholes and other circular structures

elevated above the roadway under construction. *Id.* However, such single-piece donut-shaped ramps are generally constructed with a relatively steep incline in order to maintain a manageable overall diameter such that the ramps can be handled by one or two workmen during installation and removal of the ramps. *Id.* Relatively steep ramps are not well adapted for use on elevated manholes in roadways where traffic is moving at higher speeds. *Id.* However, if larger diameter single-piece donut shaped ramps are used, such ramps are not easily transported and require more workmen to install and remove, thereby adding to labor costs. *Id.*

Applicant's invention resolves the foregoing problems associated with the prior art. The temporary ramps 14 of Appellant's invention comprises a plurality of individual, inclined, interlocking ramp segments 16 (Fig. 1, 8, 9). *Id.* at 5. At least one side edge 18 of each of the ramp segments 16 has coupling formations 20 (Fig. 11) adapted for removably interlocking with complimentary coupling formations of adjacent ramp segments 16. *Id.* at pp. 5-6. The ramp segments 16 may be rectangular, as shown in drawing figures 7-8, for placement adjacent substantially linear elevated obstructions, such as an intersecting road. *Id.* at p. 7 Alternatively, the ramp segments 16 may be arcuate, as shown in drawing figures 1-3, for placement and use around circular obstructions such as manholes and the like. *Id.*

By providing interlocking ramp segments, the Applicant's present invention enables the use of larger overall ramps having a more gradual slope for use on high-speed roadways. As recognized by the Applicant, segmenting the ramp into manageable dimensions with a manageable weight enables a single laborer to quickly and easily install and remove large ramps without the need for lifting equipment or other specialized equipment. *Id.* at p. 6. Further, by segmenting the large ramps into manageable dimensions and weight, the large ramps can be easily transported in the back of a pickup truck. *Id.* Additionally, by providing interlocking

ramp segments that securely lock adjacent ramp segments together, the Applicant's invention is safe for use on roadways experiencing a high volume of traffic and high traffic speeds. *Id.* at p. 7.

To ensure that the ramp segments remain in place, a plurality of holes 38 are preferably provided through which fasteners 40, such as a nails, may be inserted and anchored to the underlying pavement. *Id.* at p. 7; Fig. 2.

VI. Issues Presented for Review.

A. Whether the Examiner has carried its burden of establishing a *prima facie* case of obviousness of claims 25, 26, 29, 32 and 36 based on Shaftner (U.S. Patent 5,308,188) in view of Rech (U.S. Patent 4,373,306).

B. Whether the Examiner has carried its burden of establishing a *prima facie* case of obviousness of claims 27, 30, 35 and 39 based on Shaftner '188 in view of Rech '306 and further in view of Browne (U.S. Patent No. 1,055,442).

C. Assuming the Examiner has carried its burden of establishing a *prima facie* case of obviousness of claims 25-27, 29, 30, 32, 35, 36 and 39 based on the cited references, whether Applicant's record evidence of secondary considerations of non-obviousness is sufficient to rebut the Examiner's *prima facie* case of obvious such that the claims should be allowed.

VII. Grouping of Claims.

Claims 25 is the only independent claim on appeal. Although the dependent claims on appeal each include limitations not found in independent claim 25, for purposes of this appeal only, Applicant stipulates that all claims on appeal will rise or fall with claim 25.

VIII. Argument.

A. The Examiner Has Failed to Carry Its Burden of Establishing a *Prima Facie* Case of Obviousness Based on the Cited References.

The Examiner rejected claims 25, 26, 29, 32 and 36 under 35 U.S.C. § 103(a) as being unpatentable over Shaftner (U.S. Patent No. 5,308,188) in view of Rech (U.S. Patent No. 4,373,306) asserting that because Shaftner allegedly discloses the claimed invention except for making the ramp from a plurality of segments "[i]t would have been obvious to one having ordinary skill to make the ramp from a plurality of segments, since it has been held that making an old device portable or movable without producing any new and unexpected results involves only routine skill in the art." Office Action dated 6/4/03, p. 2 (citing *In re Lindberg*, 93 USPQ 23 (CCPA 1952)).

"In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art." *In re Fritch*, 972 F.2d 1260, 1265, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992); 35 U.S.C. § 132. "The patent applicant may then attack the Examiner's *prima facie* case determination as improperly made out, or the applicant may present objective evidence tending to support a conclusion of nonobviousness." *In re Fritch*, 972 F.2d at 1265, 23 U.S.P.Q. 2d at 1783. "[T]he presence or absence of the *prima facie* case of obviousness controls the need for the applicant to adduce rebuttal evidence of unobviousness." *In re Dillon*, , 919 F.2d 688, 701, 16 U.S.P.Q.2d 1897 (Fed. Cir. 1990) (en banc) (Newman, J., dissenting), *cert. denied sub nom. Dillon v. Manbeck* 500 U.S. 904 (1991).

To establish its *prima facie* case of obviousness the Examiner must identify "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill

in the art would lead that individual to combine the relevant teachings in the references." *In re Fritch*, 972 F.2d at 1265, 23 U.S.P.Q.2d at 1783; *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002). As held by the Federal Circuit: "The factual inquiry whether to combine references must be thorough and searching . It must be based on objective evidence of record." *Id.* The Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and combine them to render the claimed invention obvious. *Id.* at 1343, 61 U.S.P.Q.2d at 1434.

1. **The Examiner has also committed error by focusing on the obviousness of the differences between the claimed invention and the prior art rather than on the obviousness of the claimed invention as a whole relative to the prior art.**

As identified above, the Examiner admits that Shaftner discloses only a single-piece ramp. Despite this admission, the Examiner makes an unsupported leap in reasoning that segmenting the Shaftner ramp to make it portable or movable would be obvious since such an act allegedly involves only routine skill.

The question is not whether the Shaftner ramps could be segmented, "but whether it was obvious to do so in light of the relevant factors." *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957, 43 U.S.P.Q. 2d 1294, 1297 (Fed. Cir. 1997). It is submitted that the Examiner, is improperly using hindsight to reach its initial obvious conclusion by defining the problem in terms of its solution as opposed to identifying the necessary prior art references from which an objective determination can be made as to whether the prior art contains a suggestion or motivation to segment the Shaftner ramp. As held by the Federal Circuit:

Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness By importing the ultimate solution into the problem facing the inventor, the district court adopted an overly narrow view of the scope of the prior art. It also infected the district court's determinations about the content of the prior art. . . .

.... By defining the inventor's problem in terms of its solution, the district court missed this necessary antecedent question, namely, whether the prior art contains a suggestion or motivation to combine references to form a trend.

Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 881-82, 45 U.S.P.Q.2d 1977, 1981-82 (Fed. Cir. 1998).

In the present case, by defining the inventor's problem in terms of its solution, the Examiner missed the necessary antecedent question, namely, whether the prior art contains a suggestion or motivation to segment the Shaftner ramp. As identified above, Shaftner is completely devoid of any discussion of providing a ramp comprised of individual interlocking segments. Thus, even assuming that only routine skill is required to segment the Shaftner ramp, the Examiner's argument is circular and therefore improper. In order to employ the alleged "routine skill" to segment the Shaftner ramp, one of ordinary skill must first have been motivated to employ that routine skill.

The Examiner cites to no trend in the art upon which it can rely to supply the necessary motivation or suggestion to segment the Shaftner ramp. Furthermore, the Examiner fails to recognize an important consideration, namely – that "it does not negate patentable invention merely to establish that a desirable goal, once perceived, could have been reached by the exercise of routine skill. Patentable ingenuity may be involved in the perception of the goal."

Plantronics, Inc. v. Roanwell Corp., 403 F. Supp. 138, 153, 187 U.S.P.Q. 489 (S.D.N.Y. 1975) (citing *Timely Products Corp. v. Stanley Arron*, 523 F.2d 288 (2d Cir. 1975)); *In re Zurko*, 111 F.3d 887, 42 U.S.P.Q. 2d 1476, 1479 (Fed. Cir. 1997) ("a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified."); *In re Nomiya*, 509 F.2d 566, 184 USPQ 607, 612 (CCPA 1975)

("that a patentable invention may lie in the discovery of the source of the problem even though the remedy may be obvious once the source of the problem is identified. This is part of the 'subject matter as a whole' which should always be considered in determining the obviousness of the invention under 35 U.S.C. § 103."); *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984) (it is error to focus "solely on the product created, rather than on the obviousness or nonobviousness of its creation") (quoting *General Motors Corp. v. U.S. Int'l Trade Comm'n*, 687 F.2d 476, 483, 215 U.S.P.Q. 484, 489 (CCPA 1982), *cert. denied*, 459 U.S. 1105 (1983)). In fact one court has stated that "[e]xperience has shown that some of the simplest advances have been the most non-obvious." *Van Veen v. United States*, 386 F.2d 462, 156 USPQ 403, 405 (Ct. Cl. 1967); *Arkie Lures*, 119 F.3d 953 at 957, 43 U.S.P.Q. 2d at 1297 ("Ready recognition of the merits of a new product does not establish obviousness.").

Thus, by defining Applicant's problem in terms of its solution, the Examiner missed the necessary antecedent question, namely, whether the prior art contains a suggestion or motivation which would lead one of ordinary skill to segment the Shaftner ramp. The prior art cited by the Examiner fails to provide this necessary missing antecedent requirement for the reasons identified below.

2. Applicant specifically claims structural and functional limitations not disclosed in Shaftner, and therefore, the Examiner's attempt to rely on *In re Lindberg* in support of its obviousness rejection is without merit.

The Examiner cites *In re Lindberg*, 93 USPQ 23, in support of its proposition that "making a device portable or movable without producing any new and unexpected result involves only routine skill in the art." See Office Action at pp. 3, 4 and 7. In *In re Lindberg*, the patent applicant was attempting to assert that his self-propelled agricultural sprayer was a non-obvious improvement over the prior art agricultural sprayers pulled by a tractor -- there

apparently being no other distinguishing features between the applicant's claims and the cited prior art. *Id.* at 25-26. Moreover, the claims in issue in *In re Lindeberg* did not even recite the features upon which the applicant was attempting to rely on appeal. *Id.* at 26.

Unlike the facts in *In re Lindberg*, Applicant specifically claims structural limitations not disclosed in Shaftner. In particular, Applicant's claim 25 does not simply claim a ramp comprising a plurality of segments as asserted by the Examiner. Rather claim 25 specifically requires (*inter alia*) a ramp comprised of a plurality of individual interlocking ramp segments wherein -- "opposing side edges [of the ramp segments] having complementary coupling formations adapted for removably interlocking with said opposing side edges of another one of said adjacently disposed first ramp segments . . . whereby said plurality of individual, adjacently disposed, removably interlocking said first ramp segments will form a temporary ramp assembly such that vehicles traveling on the roadway ride up and over the elevated obstruction without damage."

Accordingly, because Shaftner is completely devoid of any teaching of providing a segmented ramp, let alone providing ramp segments having coupling formations in opposing side edges of abutting ramp segments, the Examiner's attempt to rely on *In re Lindberg* in support of its position that Applicant is simply attempting to make the ramp portable or movable without creating any new or unexpected results is erroneous.

3. **The prior art cited by the Examiner does not support a trend which would motivate one of skill in the art to segment the Shaftner ramp – in fact, the prior art supports the opposite conclusion.**

Claim 25 recites:

In combination, a temporary protective ramp adapted for use on a roadway under construction, the roadway having a roadway surface and an obstruction elevated above the

roadway surface at a height corresponding to an expected elevation of the roadway upon completion of construction, the temporary protective ramp being adapted for removable placement adjacent the elevated obstruction to prevent damaging impact of the elevated obstruction and damaging impact of vehicles traveling on the roadway under construction; the temporary protective ramp comprising: an assembly of a plurality of individual, adjacently disposed, removably interlocking first ramp segments, wherein each said first ramp segments . . . wherein . . . opposing side edges [of the ramp segments] having complementary coupling formations adapted for removably interlocking with said opposing side edges of another one of said adjacently disposed first ramp segments . . . whereby said plurality of individual, adjacently disposed, removably interlocking said first ramp segments will form a temporary ramp assembly such that vehicles traveling on the roadway ride up and over the elevated obstruction without damage.

Rech discloses "duckboard as used, for example, on airplane runways or in a factory yard as a track for wheeled vehicles" which is constructed of a plurality of interlocking segments. *See Rech '306 at col. 2, lines 17-18.* It is submitted that one involved in the field of road construction seeking a solution to the problem of providing temporary ramps for use on roadways under construction would not turn to the art of duckboard landing mats used on airplane runways or in factory yards as a track for wheeled vehicles for suggestions.

Furthermore, the lack of a trend and the lack of motivation or suggestion to combine the teachings of Rech and Shaftner is supported by the issuance dates of these two references. Rech issued in 1983. Shaftner issued in 1994. Thus, the Rech invention was publicly available for over eleven years prior to the issuance of the Shaftner '188 patent, yet Shaftner failed to even consider disclosing a manhole ramp comprised of a plurality of individual interlocking segments.

If it was so obvious, as argued by the Examiner, to make a temporary ramp comprised of individual interlocking ramp segments in view of Rech, why then would Shaftner not recognize or disclose such an alleged obvious modification of his single-piece ramp in light of all the features and advantage which a segmented ramp has to offer? The answer is simple -- segmenting a ramp for use on roadway construction is not obvious and there was no "trend" at the time of Applicant's invention which would have lead one of ordinary skill in the art to do so.

Based on the foregoing, it is submitted that Examiner has used Applicant's claimed invention as an instruction manual or "template" to pick and choose among isolated disclosures in the prior art to piece together the Applicant's claimed invention in order to reach its obvious conclusion. Such a practice is improper. *In re Fritch*, 972 F.2d at 1266, 23 U.S.P.Q. 2d at 1784. "It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the elements." *Arkie Lures*, 119 F.3d at 957, 43 U.S.P.Q. 2d at 1297.

4. The Examiner is improperly asserting a high level of skill to reach its obviousness conclusion.

The Examiner cannot properly assert that it is relying only on knowledge within the level of ordinary skill at the time of the claimed invention without explaining the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of the applicants invention to make the combination of the cited references. *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q. 2d 1453, 1458-59 (Fed. Cir. 1998). It is inferred that the Examiner is improperly using hindsight when it does not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of the applicants invention to make the combination of the cited references. *Id.* at 1358, 47 USPQ 2d at 1458.

It has already been shown that the Examiner fails to put forth any objective evidence on which it can rely in support of its conclusion that it would have obvious to segment the Shaftner ramp. Furthermore, it has already been shown that the Examiner has failed to identify any motivation or teaching in Shaftner or Rech upon which it could rely to combine those two references to support its obviousness conclusion. As such, it must be inferred that the Examiner reached its obviousness conclusion based on hindsight as a result of improperly assigning a high level of skill to the ordinary artisan in the field of road construction and repair.

5. The Examiner failed to consider the claimed invention as a whole.

When making an obviousness determination, the Examiner must consider the claimed invention as a whole, including the distinguishing features of Applicant's invention over the prior art and the advantages achieved by Applicant's claimed invention over the prior art. *In re Wright*, 848 F.2d 1216, 6 U.S.P.Q.2d 1959 (Fed. Cir. 1988) ("The problem solved by the invention is always relevant. The entirety of a claimed invention, including the combination viewed as a whole, the elements thereof, and the properties and purpose of the invention, must be considered.") *overruled on other grounds by, In re Dillon*, 919 F.2d 688, 16 U.S.P.Q.2d 1897 (Fed. Cir. 1990).

As disclosed on page 8 of Applicant's specification, the above recited structural limitations of Claim 25 enable the use of large ramps with a more gradual slope for use on high-speed roadways while at the same time: (1) enabling these large ramps to be easily transportable in the back of a pickup truck which would not otherwise be possible; (2) enabling a single laborer to quickly and easily install and remove these large ramps without the need for lifting equipment or other specialized equipment; and (3) ensuring that the ramp segments are securely locked together and will not come apart during use.

In the Background of Applicant's specification, Applicant clearly explained the need for these features and discusses the inability of the Shaftner ramps to achieve these goals and advantages. Similarly, because Rech is directed toward "duckboard as used, for example, on airplane runways or in a factory yard as a track for wheeled vehicles" as opposed to temporary ramps for use on roadways under construction, it too fails to address the properties and purpose of the Applicant's claimed invention. The Examiner failed to even acknowledge the fact that neither Shaftner nor Rech even consider the problems recognized by Applicant.

Based on the foregoing, it is abundantly clear that Examiner's obviousness assertion based on the combination of Rech '306 with Shaftner '188 is wholly unsupported and conclusory and that the Examiner impermissibly used Applicant's claimed invention as an instruction manual or "template" to pick and choose among isolated disclosures in the prior art to piece together the Applicant's claimed invention in order to render it obvious. *In re Fritch*, 972 F.2d at 1266, 23 U.S.P.Q. 2d at 1784. "It is insufficient to establish obviousness that the separate elements of the invention existed in the prior art, absent some teaching or suggestion, in the prior art, to combine the elements." *Arkie Lures*, 119 F.3d at 957, 43 U.S.P.Q. 2d at 1297.

Based on the foregoing, the Board should hold that the Examiner has failed to carry its burden of establishing a *prima facie* case of obviousness of claims 25, 26, 29, 32 and 36 based on Shafter in view of Rech, and therefore grant allowance of those claims. Similarly, because the Examiner has failed to carry its burden of establishing a *prima facie* case of obviousness with respect to the base independent claim 25, then the Examiner has necessarily failed to carry its burden of establishing a *prima facie* case of obviousness with respect to claims 27, 30, 35, and 39 which depend therefrom. Accordingly, the Board should likewise grant allowance of those claims as well.

B. Even if the Board Concludes that the Examiner Has Carried Its Burden of Establishing a *Prima Facie* Case of Obviousness, Applicant's Evidence of Secondary Considerations of Non-Obviousness Is More than Sufficient to Rebut the Examiner's *Prima Facie* Case and Therefore Applicant's Claims Should be Allowed.

On August 5, 2002, in Applicant's Response to the Office Action dated June 4, 2002 Applicant entered into the record numerous declarations and exhibits from the inventor and others experienced in the field of road construction, all in support of Applicant's alternative argument that the claimed invention is non-obviousness over the cited references. The Examiner failed to even acknowledge, let alone consider, this secondary evidence of non-obviousness.

As held by the Federal Circuit:

[E]vidence of secondary consideration may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decision-maker remains in doubt after reviewing the art.

Thus, when differences that may appear technically minor nonetheless have a practical impact, particularly in a crowded field, the decision-maker must consider the obviousness of the new structure in this light. Such objective indicia as commercial success, or filling an existing need, illuminate the technological and commercial environment of the inventor, and aid in understanding the state of the art at the time the invention was made.

Continental Can Co. USA v. Monsanto Co., 948 F.2d 1264, 20 U.S.P.Q.2d 1746, 1752 (Fed. Cir. 1991).

- 1. The fact that no others have ever made segmented temporary ramps despite the Shaftner disclosure and the Rech disclosure being available for over 8 years and 20 years, respectively, weighs in favor of a finding of non-obviousness.**

The single-piece manhole ramps of the Shaftner patent are being manufactured and sold

under an exclusive license by Work Area Protection Corporation (WAPC). Koch Aff. ¶ 19.¹ WAPC purports to be the "international leader in traffic control and work zone safety devices." Koch Aff. ¶ 19 citing Ex. B. But yet, despite the fact that the disclosures of the Rech and Shaftner have been publicly known for nearly twenty years and eight years respectively, neither WAPC nor any other manufacturer, has ever offered a manhole ramp or butt-joint ramp comprised of segmented interlocking ramp segments for use on a roadway surface during road repair or construction operations as disclosed and claimed by Applicant. Koch Aff. ¶ 21-23. Accordingly, the fact that the Shaftner/WAPC ramps have been used for years in the industry and the fact that the disclosure of Rech has been publicly available for nearly twenty years without anyone combining their properties weighs in favor of non-obviousness of the combination. See, e.g., *Arkie Lures*, 119 F.3d at 957; 43 U.S.P.Q. 2d at 1297.

2. Applicant's invention has achieved industrial respect from the international leader in traffic control and work zone safety devices.

The first time Applicant showed his invention to WAPC, the vice president of product account development for WAPC made an offer to obtain an exclusive license of Applicant's invention. Koch Aff. ¶ 24. Negotiations with WAPC to obtain a license of Applicant's invention are on-going. Koch Aff. ¶ 24. This fact alone is compelling evidence that Applicant's invention is a non-obvious improvement over the single-piece manhole ramps. See, e.g., See, e.g., *Arkie Lures*, 119 F.3d at 957, 43 U.S.P.Q. 2d at 1297 (licensing activity "highly probative of the issue of nonobviousness."). Furthermore, this fact alone demonstrates that those involved in the particular market in which Applicant's invention pertains consider Applicant's invention a significant advance over the single-piece ramps, so much so that the industry leader wishes to obtain an exclusive license. Additionally, this fact alone supports a finding that Applicant's

¹ The Affidavits and Exhibits referenced herein were made part of the record in Applicant's Response filed on August 5, 2002.

invention fulfills an existing need in the industry not satisfied by the existing single-piece ramps available in the market.

3. Applicant's invention has achieved significant commercial success.

In little more than twelve months, Applicant's company has sold over 147 butt-joint ramp segments and manhole ramp segments to various road repair and construction contractors in the central Illinois area generating gross receipts of approximately \$52,000. Koch Aff. ¶ 26. These sales were a direct result of the purchasers desiring the features and advantages of Applicant's invention compared to the single-piece ramps currently available on the market. Koch Aff. ¶¶ 27-28; Rowell Aff. ¶¶ 5-9; Naeger Aff. ¶¶ 7-13; Birk Aff. ¶¶ 5-11; Emlen Aff. ¶¶ 5-9. One of the affiants, who has over thirty years of experience in the field of road repair and construction declares that Applicant's segmented ramps will become "the standard in the industry." Rowell Aff. ¶ 17.

4. Those skilled in the field of road repair and construction consider Applicant's invention a significant improvement in the industry.

The persons in the industry who have actually seen and used Applicant's invention consider Applicant's invention to be a significant improvement over the conventional asphalt pavement ramps and a significant improvement over the single-piece Shaftner ramps. Rowell Aff. ¶ 14; Naeger Aff. ¶ 18; Birk Aff. ¶ 16; Emlen Aff. ¶ 14.

5. Applicant's invention satisfies a long-felt but unresolved need in the industry.

The persons in the industry who have actually seen and used Applicant's invention declare that Applicant's invention fulfills a long-felt but unresolved need in the road construction industry which is not satisfied by the single-piece Shaftner/WAPC ramps. Rowell Aff. ¶ 15; Naeger Aff. ¶ 19; Birk Aff. ¶ 17; Emlen Aff. ¶ 15.

6. Applicant's invention has achieved unexpected results.

The persons in the industry who have actually used Applicant's invention have achieved new and unexpected results. Specifically, these persons declared that they have been able to achieve a competitive advantage over contractors that continue to use conventional asphalt pavement ramps. Rowell Aff. ¶ 16; Naeger Aff, ¶ 20; Birk Aff. ¶ 18; Emlen Aff. ¶ 16. Furthermore, even if the single-piece Shaftner/WAPC manhole ramps were available in a more gradual slope such as 1:20 or 1:50, these persons declared that they would be able to maintain their competitive advantage because Applicant's invention allows the ramps to be (1) quickly and easily installed and removed by a single laborer without the need for lifting equipment or other specialized equipment to install and remove the ramps, and (2) easily transported in segments for re-use on another job site in a conventional pickup truck bed. Rowell Aff. ¶¶ 9, 12, 15; Naeger Aff, ¶¶ 16, 19; Birk Aff. ¶¶ 14, 17; Emlen Aff. ¶¶ 9, 15. *See e.g., Perkin Elmer Corp. v. Comutervision Corp.*, 732 F.2d 888, 221 U.S.P.Q. 669, 674 (Fed. Cir.), cert. denied., 469 U.S. 857, 225 U.S.P.Q. 792 (1984) (evidence of non-obviousness includes the patented invention achieving unexpected results).

7. Applicant's invention has achieved industry acclaim.

The persons in the industry which have actually used Applicant's invention praise Applicants invention as a significant improvement in the industry. Rowell Aff. ¶¶ 15-17; Naeger Aff, ¶¶ 17-20; Birk Aff. ¶¶ 15-18; Emlen Aff. ¶¶ 13-16. *Perkin Elmer*, 732 F.2d 888, 221 U.S.P.Q. at 674 (evidence of non-obviousness includes industry respect and acclaim).

III. CONCLUSION

For the foregoing reasons, the Board should hold that the Examiner has failed to carry its

burden of establishing a *prima facie* case of obviousness. In the alternative, in view of Applicant's evidence of secondary considerations of non-obviousness, the Board should allow all the claims on appeal by holding that the secondary considerations of non-obviousness submitted by the Applicant are sufficient to overcome the Examiner's *prima facie* showing.

Respectfully submitted,

Earl. D. Koch

Date: 1/5/04

By: 

Thomas J. Oppold
Reg. No. 42,054

Customer No. 23452

ATTORNEY FOR APPELLANT

CERTIFICATE OF EXPRESS MAILING

Pursuant to 37 CFR 1.10, I hereby certify that Appellant's Appeal Brief, for Application Serial No. 09/553,452 is being deposited with the U.S. Postal Service by Express Mail, Post Office to Addressee service, addressed to: MAIL STOP APPEAL BRIEF-PATENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date of deposit and under the mailing label number indicated below.

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Thomas J. Oppold

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Appendix

The text of the claims involved in the appeal are:

25. In combination, a temporary protective ramp adapted for use on a roadway under construction, the roadway having a roadway surface and an obstruction elevated above the roadway surface at a height corresponding to an expected elevation of the roadway upon completion of construction, the temporary protective ramp being adapted for removable placement adjacent the elevated obstruction to prevent damaging impact of the elevated obstruction and damaging impact of vehicles traveling on the roadway under construction; the temporary protective ramp comprising:

an assembly of a plurality of individual, adjacently disposed, removably interlocking first ramp segments, wherein each said first ramp segments includes:

a substantially horizontal lower surface adapted for contacting the roadway surface during use;

an upper surface adapted for contact with vehicle wheels during use, said upper surface inclined downwardly from a first edge at an apex of said ramp segment to a second edge opposite said first edge, wherein said first edge apex has a predetermined height substantially the same as the height of the elevated obstruction above the roadway surface;

opposing side edges having complementary coupling formations adapted for removably interlocking with said opposing side edges of another one of said adjacently disposed first ramp segments;

whereby in use, said first edge of each of said plurality of individual, adjacently disposed,

removably interlocking first ramp segments is positionable adjacent the elevated obstruction with said lower surface contacting the roadway surface, and whereby said plurality of individual, adjacently disposed, removably interlocking first ramp segments will form a temporary ramp assembly such that vehicles traveling on the roadway ride up and over the elevated obstruction without damage.

26. The combination of claim 25 wherein said upper surface of said first ramp segments have a slope of at least approximately 1:20.

27. The combination of claim 26 wherein said elevated obstruction on the roadway surface is substantially linear, and wherein said first ramp segments are substantially rectangular; whereby in use, said plurality of adjacently disposed rectangular first ramp segments form a rectangular ramp for placing adjacent the substantially linear elevated obstruction.

29. The combination of claim 26 wherein said temporary protective ramp further comprising a plurality of individual, adjacently disposed, removably interlocking second ramp segments, each said second ramp segments having:

a substantially horizontal lower surface adapted for contacting the roadway surface during use;

an upper surface adapted for contact with vehicle wheels during use, said upper surface inclined downwardly at a slope of at least approximately 1:20 from a first edge at an apex of said second ramp segment to a second edge opposite said first edge, wherein

said first edge apex of said second ramp segment is at a height substantially the same as a height of said second edge of said adjacently disposed one of said first ramp segments, and wherein at least said second edge of said first ramp segments and said first edge of said second ramp segments include complementary coupling formations for removably interlocking said first ramp segments with said second ramp segments; and

opposing side edges having complementary coupling formations adapted for removably interconnecting with said side edges of another one of said adjacently disposed second ramp segments,

whereby said plurality of individual, adjacently disposed, removably interlocking first and second ramp segments form a temporary ramp assembly with a slope of at least approximately 1:20 to allow vehicles traveling on the roadway to ride up and over the elevated obstruction without damage.

30. The combination of claim 29 wherein said elevated obstruction on the roadway surface is substantially linear, and wherein said first and second ramp segments are substantially rectangular;

whereby in use, said plurality of adjacently disposed rectangular first and second ramp segments form a rectangular ramp for placing adjacent the substantially linear elevated obstruction.

32. The combination of claim 25, wherein said first ramp segments are elastomeric.

35. The combination of claim 25, wherein said first ramp segments further comprise fastener openings for receiving fasteners therethrough to secure said first ramp segments to the roadway while in use.

36. The combination of claim 29, wherein said first and second ramp segments are elastomeric.

39. The combination of claim 29, wherein said first and second ramp segments further comprise fastener openings for receiving fasteners therethrough to secure said first and second ramp segments to the roadway while in use.